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Stakeholders Key to New Wisconsin Farm Equipment Weight Standards

The agricultural industry plays a key role in Wisconsin's economy, and the industry depends on a reliable system of roads and bridges to make operations run smoothly. Throughout the years, the increasing size and weight of agricultural equipment—generally referred to as implements of husbandry (IoH)—has led to increasing stress on and damage to public roads and bridges, as well as confusion and concerns among farmers, drivers, and law enforcement and transportation officials. Farmers and custom operators were sometimes unaware of size and weight restrictions and their application to IoH. As concerns grew, the Wisconsin Department of Transportation (WisDOT) and the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) initiated a joint project to explore solutions that balance the sometimes conflicting needs of IoH stakeholders.

Stakeholder Involvement

As a first step to guide the project, the partners formed a task force known as the IoH Study Group (*see group list)*. By design, the task force included representatives from the diverse base of those affected by the issue—from farmers to equipment manufacturers to transportation engineers to local officials, among others. In turn, IoH Study Group members also were responsible for gathering information and perspectives from their stakeholders.

As part of the project's initial phase, the IoH Study Group began by examining current fleets of equipment, modern agricultural needs, and the standards and capacity for roads and bridges. The group recommended new statutory definitions to help keep pace with the changes in today's equipment and maximum size limits, as well as establishing an outreach and education group to improve understanding of the IoH laws and best practices for reducing impacts to the infrastructure.

In the second phase, the study group gathered information about the effect of IoH on pavement performance and on bridges. WisDOT pavement and structural engineers used data from the 2012 pooled-fund study "Effects of Implements of Husbandry (Farm Equipment) on Pavement Performance" at MnROAD to conduct a never-before-done analysis to model IoH equipment and determine its impact on the infrastructure. This research offered the basis to justify allowing an increase of up to 15 percent more than existing weights.

IoH Study Group: Breadth and Depth

The IoH Study Group comprised representatives from:

- Wisconsin Department of Transportation
- Wisconsin Department of Agriculture, Trade, and Consumer Protection
- University of Wisconsin (UW) Center for Agricultural Safety and Health
- UW-Madison Department of Biological Systems Engineering
- UW Extension Environmental Resource Center
- Wisconsin Traffic Operations and Safety Laboratory
- Professional Nutrient Applicators Association of Wisconsin
- Wisconsin Farm Bureau Federation
- Professional Dairy Producers of Wisconsin
- Wisconsin Towns Association
- Wisconsin County Highway Association
- Maxville Truck and Repair
- Wisconsin Custom Operators
- League of Wisconsin Municipalities
- Wisconsin Agri-Business Association
- Husky Farm Equipment, Ontario, Canada
- Association of Equipment Manufacturers (Milwaukee, Wisconsin)
- Dairy Business Association
- Wisconsin Independent Business—Agri-Business Coalition
- RCI Engineering LLC

Support from:

- John Deere
- Kubota Tractor Corporation
- Case New Holland (CNH)
- AGCO

Final Recommendations

Following town hall meetings, the IoH Study Group gathered one more time to make these final recommendations:

- ***Clarify the IoH definition***
  Develop a clearer, simpler definition of IoH to reflect today's agricultural equipment
- ***Create size limits***
  Provide guidance on height, width, and length
- ***Create new IoH weight limit***
  Expand allowance by 15 percent weight over the limits established by the Federal Bridge Formula, except where posted and during spring thaw periods, equating to a maximum single-axle weight of 23,000 pounds and a maximum gross vehicle weight of 92,000 pounds
- ***Require written authorization from applicable local or state authority to exceed weight limit***
  Require authorization to exceed weight limit and establish fees and fines (the recommendation was advanced with the intention of generating conversations between IoH operators and local officials)

Other recommendations included supporting best practices, developing youth training requirements for large IoH equipment operations, establishing a standing forum to continue addressing issues, encouraging the development of national standards by advancing the issue with national groups, conducting ongoing outreach, and pursuing other educational opportunities.

Implementation

The Wisconsin Legislature used the IoH Study Group reports and recommendations in shaping legislation. The bill that received legislative approval in April 2014 defined different types of agricultural equipment; increased the weight limits by 15 percent (23,000 pounds per axle and 92,000 pounds gross vehicle weight); and granted towns and counties the authority to establish no-fee permits for overweight IoH requiring approved routes for tillage, planting, and harvesting equipment.

There are also plans to establish a standing forum to continue discussion on agricultural issues related to transportation, including IoH. Current IoH Study Group members continue to share their work, and presentations have been made to national groups.

The project has helped increase awareness among various stakeholders, including farmers, equipment manufacturers, local officials, and law enforcement, supporting implementation and other possible solutions.

Research studies in progress, such as Iowa State University's "The Effects of Implements of Husbandry Farm Equipment on Rigid Pavement Performance," will help inform ongoing efforts. The IoH Study Group also identified the need for additional research on the following topics: distribution and impact factors related to IoH type equipment for use in the analysis of bridges, as well as the impact of tire configuration and track design on bridges and structures; design code provisions for the inclusion of the effects of IoH on the design of new structures; and methods to retrofit existing structures that were designed with lower load configurations or that have experienced deterioration, reducing the load capacity of the structure below the needs of IoH equipment. Impact on culverts also needs study.

Outreach

With the goal of casting a wide net of involvement in helping shape final recommendations, the IoH Study Group hosted a series of town hall meetings throughout the state where participants offered their thoughts on initial recommendations.

The six meetings attracted more than 1,200 farmers, local highway superintendents, custom operators, elected officials, and interested citizens who took part in real-time polling during the meetings. The meetings received statewide media coverage.

The IoH Study Group also distributed a survey at the meeting and posted it online for greater distribution, as well as establishing a dedicated e-mail address, and collected 530 surveys and more than 150 written comments.

Stakeholder involvement proved critical in understanding the needs of stakeholders affected by the issue, in learning more about the current equipment in use, and in shaping the final recommendations.

Resources

The Wisconsin agricultural equipment and vehicles website at www.dot.wisconsin.gov/business/ag includes the Phase I, Phase II, and amended Phase II reports, and other related information from the IoH Study.

For more information about the IoH project, please contact:

- Rory Rhinesmith, IoH Study chair and Deputy Administrator—Bureaus, Division of Transportation System Development, WisDOT, rory.rhinesmith@dot.wi.gov
- Mae Knowles, Division Communications Manager, WisDOT, mae.knowles@dot.wi.gov

Links to these resources are available on the TERRA website. More about TERRA, including contact information for program representatives **Stephanie Malinoff** (Center for Transportation Studies) and **Maureen Jensen** (Minnesota Department of Transportation), also is online at www.TerraRoadAlliance.org.